Practice 1-1
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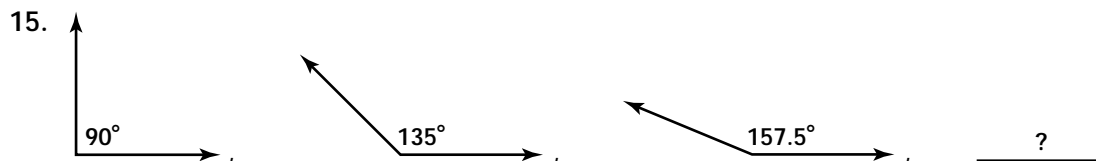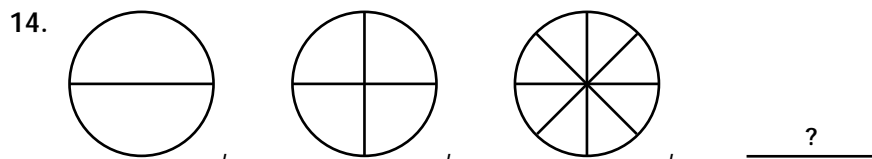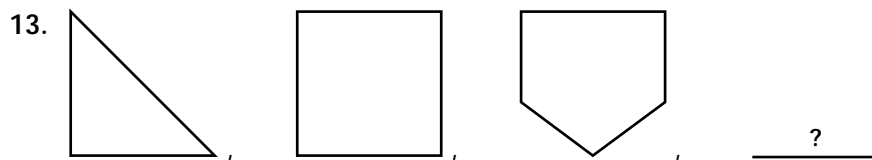## *Mixed Exercises*

Find the next number in each pattern.

1. 17, 23, 29, 35, 41, . . .   2. 1.01, 1.001, 1.0001, . . .   3. 12, 14, 18, 24, 32, . . .

4. 2, −4, 8, −16, 32, . . .   5. 1, 2, 4, 7, 11, 16, . . .   6. 32, 48, 56, 60, 62, 63, . . .

Name two different ways to continue each pattern.

7. 1, 1, 2, ____?____   8. 48, 49, 50, ____?____   9. 2, 4, ____?____

10. A, B, C, . . . , Z, ____?____   11. D, E, F, ____?____   12. A, Z, B, ____?____

Give the next figure in each pattern. Explain your reasoning.

13.

14.

15.

Seven people meet and shake hands with each other.

16. How many handshakes occur?

17. Using inductive reasoning, write a formula for the number of handshakes if the number of people is *n*.

The Fibonacci Sequence consists of the pattern 1, 1, 2, 3, 5, 8, 13, ...

18. What is the ninth term in the pattern?

19. Using your calculator, look at the successive ratios of one term to the next. Make a conjecture.

20. List the first eight terms of the sequence formed by finding the differences of successive terms in the Fibonacci Sequence.

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